AUTHOR INDEX TO VOLUME 4

Adamskii, V. B. Local Invariance and the Theory of Compensating Fields — 607.

Aleksandrov, L. N. and B. Ya. Lyubov. Theoretical Analysis of the Decomposition Kinetics of Supersaturated Solid Solutions — 706.

Aleksandrov, N. M. and F. M. Skripov. Structural Investigation in Crystals by the Method of Nuclear Magnetic Resonance — 947.

Alekseev, A. I. The Application of the Methods of Quantum Field Theory in Statistical Physics — 23.

Al'tshuler, S. A., B. I. Kochelaev, and A. M. Leushin. Paramagnetic Absorption of Sound — 880.

Amstislavskii, Ya. E. Light Transmission Method of Obtaining a Picture of Fresnel Interference in White Light — 836.

Andronikashvili, É. L., Yu. G. Mamaladze, S. G. Matinyan, and D. S. Tsakadze. Properties of the Quantized Vortices Generated by the Rotation of Helium II — 1.

Artemenkov, L. I. (see Golovin, I. N.) — 323.

Bagaryatskii, B. A. Radar Reflections from Aurorae — 70.

Barashenkov, V. S. Errata and Addenda to the Article "Interaction Cross Sections of High-Energy Particles." — 388L.

Basov, N. G., O. N. Krokhin, A. N. Oraevskii, G. M. Strakhovskii, and B. M. Chikhachev. Possible Investigation of Relativistic Effects with the Aid of Molecular and Atomic Frequency Standards — 641.

Bass, F. G., S. Ya. Braude, É. A. Kaner, and A. V. Men'. Fluctuations of Electromagnetic Waves in the Troposphere in the Presence of Separation Boundaries — 51.

Bogdanov, G. F. (see Golovin, I. N.) — 323.

Bolotovskii, B. M. Theory of Cerenkov Radiation (III) — 781.

Braude, S. Ya. (see Bass, F. G.) — 51.

Broude, V. L. Spectroscopic Studies of Benzene — 584.

Burshtein, L. L. (see Mikhailov, G. P.) — 389.

Chernov, A. A. The Spiral Growth of Crystals — 116.

Chikhachev, B. M. (see Basov, N. G.) — 641.

Dykhne, A. M. and Yu. B. Rumer. Thermodynamics of a Plane Ising-Onsager Dipole Lattice — 698.

Dzyaloshinskii, I. E., E. M. Lifshitz, and L. P. Pitaevskii. General Theory of Van der Waals' Forces — 153.

Él'yashevich, M. A., G. P. Gurinovich, and K. N. Solov'ev. Award of Vavilov Gold Medal — 839.

Feofilov, P. P. S. I. Vavilov, The Founder of the Soviet School of Luminescence — 770.

Flerov, G. N. (see Petrzhak, K. A.) — 305.

Fock, M. V. Electroluminescence — 759.

Frank, I. M. Transition Radiation and the Cerenkov Effect — 740.

— (see Levshin, V. L.) — 730.

Fridkin, V. M. Symposium on Physical Fundamentals of the Electrophotographic Process — 637.

Garber, R. I. and I. A. Gindin. The Physical Properties of Metals of High Purity — 405.

Gindin, I. A. (see Garber, R. I.) — 405.

Ginzburg, V. L. Cosmic Rays on Earth and in the Universe — 553.

Gol'danskii, V. I. and L. K. Peker. On Some Problems of Isomerism of Atomic Nuclei — 291.

Golovin, I. N., L. I. Artemenkov, G. F. Bogdanov, D. A. Panov, V. I. Pistunovich, and N. N. Semashko. Work with the Experimental Thermonuclear System Ogra — 323.

Grinberg, A. P. The Microtron — 857.

Gribov, L. A. and V. N. Smirnov. Intensities in the Infrared Absorption Spectra of Polyatomic Molecules — 919.

Gurinovich, G. P. (see Él'yashevich, M. A.) — 839.

Ignatenko, V. P. Principles of Formation and Focusing of Intense Beams of Charged Particles — 96.

Ioffe, A. F. I. V. Kurchatov - Investigator of Dielectrics — 279.

Izyumova, T. G. (see Skrotskii, G. V.) — 177.

Kaner, É. A. (see Bass, F. G.) — 51.

Kartuzhanskii, A. L. Elementary Photographic Processes in an Electric Field — 205.

Kochelaev, B. I. (see Al'tshuler, S. A.) — 880.

Kondrat'ev, K. Ya. Satellites and Meteorology — 441.

Krasovskii, V. I. Some Results of IGY and IGC Research on the Aurora and Night Glow — 904.

Krokhin, O. N. (see Basov, N. G.) — 641.

Kurchatov, I. V. Certain Results Obtained in Research on Controlled Thermonuclear Reactions in the USSR — 274.

Kuznetsov, I. V. S. I. Vavilov's Works on Philosophy and the History of Natural Science — 754.

Leushin, A. M. (see Al'tshuler, S. A.) — 880.

Levshin, V. L. Sergei Ivanovich Vavilov (on the seventieth anniversary of his birth) — 374.

— The Development of S. I. Vavilov's Ideas in the Field of Luminescence — 747.

—, A. N. Terenin, and I. M. Frank. The Development of S. I. Vavilov's Work in Physics — 730.

Lifshitz, E. M. (see Dzyaloshinskii, I. E.) — 153.

Litinetskii, I. B. The Achievement of M. V. Lomonosov in the Field of Automation of Measurements — 850.

Losev, S. A. and A. I. Osipov. The Study of Nonequilibrium Phenomena in Shock Waves — 525.

Lyubov, B. Ya. (see Aleksandrov, L. N.) — 706.

Mamaladze, Yu. G. (see Andronikashvili, É. L.) — 1.

Matinyan, S. G. (see Andronikashvili, É. L.) — 1.

Mazets, E. (see Sliv, L.) — 149.

Mel'nikov, G. P. The Measurement of Multidimensional Spectra in Nuclear Physics — 370.

Men', A. V. (see Bass, F. G.) — 51.

Mikhailov, G. P. and L. L. Burshtein. Modern Theories of Dipole Polarization of Condensed Molecular Systems — 389.

Milyutin, V. I. Electron Interference and Phase Microscopy — 576.

Oraevskii, A. N. (see Basov, N. G.) — 641.

Osipov, A. I. (see Losev, S. A.) — 525.

Panov, D. A. (see Golovin, I. N.) — 323.

Peker, L. K. (see Gol'danskii, V. I.) — 291.

Perkal'skis, B. Sh. Demonstrations of the Properties of Saturated Vapors — 835.

Pershin, I. I. Physical Measurements on Photographs of Particle Tracks in Bubble Chambers — 260.

Petrzhak, K. A. and G. N. Flerov. Spontaneous Fission of Nuclei — 305.
Pistunovich, V. I. (see Golovin, I. N.) — 323.
Pitaevskii, L. P. (see Dzyaloshinskii, I. E.) — 153.
Rashba, É. I. Fourth Conference on Semiconductor Theory — 498.
Rukhadze, A. A. and V. P. Silin. Electrodynamics of Media with Spatial Dispersion — 459.
Rumer, Yu. B. (see Dykhne, A. M.) — 698.
Rusinov, L. I. Nuclear Isomerism — 282.
Sagdeev, R. Z. (see Vedenov, A. A.) — 332.
Sakharov, D. I. Experiments on Refraction and Reflection of Polarized Light — 521.
Semashko, N. N. (see Golovin, I. N.) — 323.
Shapiro, I. S. The Optical Model of the Nucleus in the Light of Present-Day Data — 674.
Shestopalov, V. P. and K. P. Yatsuk. Methods of Measuring Dielectric Constants of Substances at Microwave Frequencies — 617.
Shklovskii, I. S. The Ultraviolet Radiation and Soft X Rays of the Sun — 812.
Shustin, O. A. (see Velichkina, T. S.) — 523.
Silin, V. P. (see Rukhadze, A. A.) — 459.
Skobel'tsyn, D. V. The Outstanding Russian Physicist S. I. Vavilov — 737.
Skripov, F. M. (see Aleksandrov, N. M.) — 947.
Skrotskii, G. V. and T. G. Izyumova. Optical Orientation of Atoms and its Applications — 177.
Sliv, L. and E. Mazets. Lev Il'ich Rusinov — 149.
Smirnov, B. I. (see Vasil'ev, D. M.) — 226.
Smirnov, V. N. (see Gribov, L. A.) — 919.
Solov'ev, K. N. (see Él'yashevich, M. A.) — 839.
Soshnikov, V. N. Absolute Intensities of Electronic Transitions in Diatomic Molecules — 425.
Spasskii, B. I. M. V. Lomonosov and the Development of Physics — 841.
Strakhovskii, G. M. (see Basov, N. G.) — 641.
Sveshnikov, B. Ya. The Quenching of the Luminescence of Solutions by Foreign Substances — 776.
Tartakovskii, B. D. Symposium on Diffraction of Waves — 511.
Terenin, A. N. (see Levshin, V. L.) — 730.
Tolpygo, K. B. The Present State of the Theory of Polarization of Ideal Ionic and Valence Crystals — 485.
Tsakadze, D. S. (see Andronikashvili, É. L.) — 1.
Vasil'ev, D. M. and B. I. Smirnov. Certain X-ray Diffraction Methods of Investigating Cold Worked Metals — 226.
Vavilov, V. S. Radiation Ionization Processes in Germanium and Silicon Crystals — 761.
Vedenov, A. A., E. P. Velikhov, and R. Z. Sagdeev. Stability of Plasma — 332.
Velichkina, T. S., O. A. Shustin, and N. A. Yakovlev. The Michelson Interferometer as an Apparatus for Lecture Demonstrations — 523.
Velikhov, E. P. (see Vedenov, A. A.) — 332.
Yakovlev, N. A. (see Velichkina, T. S.) — 523.
Yatsuk, K. P. (see Shestopalov, V. P.) — 617.

ANALYTIC SUBJECT INDEX TO VOLUME 4

Acoustics
Astrophysics
Atomic and Molecular Beams
Atomic Mass and Abundance
Atomic Structure and Spectra
Biographical Material
Chemical Effects and Properties
Constants, Standards and Units
Cosmic Radiation
Crystalline State
Dielectrics and Dielectric Properties
Diffraction
Diffusion
Elasticity and Plasticity
Electrical Conductivity and Resistance
Electrical Discharges
Electrical Properties
Electromagnetic Theory and Electrodynamics
Electron and Ion Emission
Electron Optics
Electrons and Positrons
Elementary Particle Interactions
Errata
Field Theory
Gamma Rays
Gases
General
Geophysics
Helium, Liquid
Imperfections in Solids
Ionization
Ions and Electrons, Mobility
Liquids
Low Temperature Physics
Luminescence
Magnetic Properties
Magnetic Resonance
Mathematical Methods
Meetings and Conferences
Metals
Methods and Instruments
Microwaves
Miscellaneous
Molecular Aggregates
Molecular Structure and Spectra
Nuclear Fission
Nuclear Photoeffects
Nuclear Reactions, General
Nuclear Reactions Induced by α Particles and He^3
Nuclear Reactions Induced by Deuterons and Tritons
Nuclear Reactions Induced by Mesons and Hyperons
Nuclear Reactions Induced by Neutrons
Nuclear Reactions Induced by Protons
Nuclear Spectra
Nuclear Structure Theory
Optical Properties
Penetration of Particles through Matter
Phase Transitions in Solids
Physics of Polymers
Plasma Physics
Radiation
Radioactivity
Relativity, Gravitation, Unified Field Theory
Scattering
Semiconductors
Solid State Theory
Spectra, General
Statistical Mechanics and Thermodynamics
Structure of Alloys and other Systems
Ultrasonics
X-rays

Acoustics

Symposium on Diffraction of Waves. B. D. Tartakovskii — 511.

Astrophysics

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.
The Study of Nonequilibrium Phenomena in Shock Waves. S. A. Losev and A. I. Osipov — 525.
The Ultraviolet Radiation and Soft X Rays of the Sun. I. S. Shklovskii — 812.

Atomic and Molecular Beams

Possible Investigation of Relativistic Effects with the Aid of Molecular and Atomic Frequency Standards. N. G. Basov, O. N. Krokhin, A. N. Oraevskii, G. M. Strakhovskii, and B. M. Chikhachev — 641.

Atomic Mass and Abundance

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

Atomic Structure and Spectra

The Development of S. I. Vavilov's Ideas in the Field of Luminescence. V. L. Levshin — 747.

Biographical Material

Award of Vavilov Gold Medal. M. A. Él'yashevich, G. P. Gurinovich, and K. N. Solov'ev — 839.
I. V. Kurchatov - Investigator of Dielectrics. A. F. Ioffe — 279.
Igor' Vasil'evich Kurchatov (Biographical Sketch). — 380.
In Memoriam, Sergei Ivanovich Vavilov on the Seventieth Anniversary of his Birth — 725.
Lev Il'ich Rusinov. L. Sliv and E. Mazets — 149.
M. V. Lomonosov and the Development of Physics. B. I. Spasskii — 841.
S. I. Vavilov, The Founder of the Soviet School of Luminescence. P. P. Feofilov — 770.
Sergeĭ Ivanovich Vavilov (on the seventieth anniversary of his birth). V. L. Levshin — 374.
The Achievement of M. V. Lomonosov in the Field of Automation of Measurement. I. B. Litinetskii — 850.
The Development of S. I. Vavilov's Work in Physics. V. L. Levshin, A. N. Terenin, and I. M. Frank — 730.

The Outstanding Russian Physicist S. I. Vavilov. D. V. Skobel'tsyn — 737.
The Quenching of the Luminescence of Solutions by Foreign Substances. B. Ya. Sveshnikov — 776.

Chemical Effects and Properties
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
The Development of S. I. Vavilov's Ideas in the Field of Luminescence. V. L. Levshin, A. N. Terenin, and I. M. Frank — 730.

Constants, Standards, and Units
Intensities in the Infrared Absorption Spectra of Polyatomic Molecules. L. A. Gribov and V. N. Smirnov — 919.

Cosmic Radiation
Cosmic Rays on Earth and in the Universe. V. L. Ginzburg — 553.
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.

Crystalline State
Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.
Electroluminescence. M. V. Fock — 759.
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
Paramagnetic Absorption of Sound. S. A. Al'tshuler, B. I. Kochelaev, and A. M. Leushin — 880.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.
Spectroscopic Studies of Benzene. V. L. Broude — 584.
The Present State of the Theory of Polarization of Ideal Ionic and Valence Crystals. K. B. Tolpygo — 485.
The Spiral Growth of Crystals. A. A. Chernov — 116.

Dielectrics and Dielectric Properties
Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.
Modern Theories of Dipole Polarization of Condensed Molecular Systems. G. P. Mikhaĭlov and L. L. Burshteĭn — 389.
Paramagnetic Absorption of Sound. S. A. Al'tshuler, B. I. Kochelaev, and A. M. Leushin — 880.

Diffraction
Spectroscopic Studies of Benzene. V. L. Broude — 584.
Symposium on Diffraction of Waves. B. D. Tartakovskii — 511.

Diffusion
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
The Development of S. I. Vavilov's Ideas in the Field of Luminescence. V. L. Levshin — 747.

Elasticity and Plasticity
The Physical Properties of Metals of High Parity. R. I. Garber and I. A. Gindin — 405.

Electrical Conductivity and Resistance
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
Principles of Formation and Focusing of Intense Beams of Charged Particles. V. P. Ignatenko — 96.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.

Electrical Discharges
Certain Results Obtained in Research on Controlled Thermonuclear Reactions in the USSR. I. V. Kurchatov — 274.
Electroluminescence. M. V. Fock — 759.
Work with the Experimental Thermonuclear System Ogra. I. N. Golovin, L. I. Artemenkov, G. F. Bogdanov, D. A. Panov, V. I. Pistunovich, and N. N. Semashko — 323.

Electrical Properties
Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.
Electroluminescence. M. V. Fock — 759.
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.

Electromagnetic Theory and Electrodynamics
Certain Results Obtained in Research on Controlled Thermonuclear Reactions in the USSR. I. V. Kurchatov — 274.
Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.
The Present State of the Theory of Polarization of Ideal Ionic and Valence Crystals. K. B. Tolpygo — 485.
Work with the Experimental Thermonuclear System Ogra. I. N. Golovin, L. I. Artemenkov, G. F. Bogdanov, D. A. Panov, V. I. Pistunovich, and N. N. Semashko — 323.

Electron and Ion Emission
Principles of Formation and Focusing of Intense Beams of Charged Particles. V. P. Ignatenko — 96.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.

Electron Optics
Electron Interference and Phase Microscopy. V. I. Milyutin — 576.
Principles of Formation and Focusing of Intense Beams of Charged Particles. V. P. Ignatenko — 96.

Elementary Particle Interactions
Local Invariance and the Theory of Compensating Fields. V. B. Adamskii — 607.

Errata
Errata and Addenda to the Article "Interaction Cross Sections of High-Energy Particles." V. S. Barashenkov — 388.
Erratum — 640.

Field Theory
Local Invariance and the Theory of Compensating Fields. V. B. Adamskii — 607.

Gamma Rays
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.

Gases
Demonstrations of the Properties of Saturated Vapors. B. Sh. Perkal'skis — 835.
General Theory of Van der Waals' Forces. I. E. Dzyaloshinskii, E. M. Lifshitz, and L. I. Pitaevskii — 153.

General
S. I. Vavilov's Works on Philosophy and the History of Natural Science. I. V. Kuznetsov — 754.
The Physical Properties of Metals of High Purity. R. I. Garber and I. A. Gindin — 405.

Geophysics
Fluctuations of Electromagnetic Waves in the Troposphere in the Presence of Separation Boundaries. F. G. Bass, S. Ya. Braude, É. A. Kaner, and A. V. Men' — 51.
Radar Reflections from Aurorae. B. A. Bagaryatskii — 70.
Satellites and Meteorology. K. Ya. Kondrat'ev — 441.
Some Results of IGY and IGC Research on the Aurora and Night Glow. V. I. Krasovskii — 904.
Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.
Helium, Liquid
Properties of the Quantized Vortices Generated by the Rotation of Helium II. É. L. Andronikashvili, Yu. G. Mamaladze, S. G. Matinyan, and D. S. Tsakadze — 1.
Imperfections in Solids
Electroluminescence. M. V. Fock — 759.
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
Paramagnetic Absorption of Sound. S. A. Al'tshuler, B. I. Kochelaev, and A. M. Leushin — 880.
The Present State of the Theory of Polarization of Ideal Ionic and Valence Crystals. K. B. Tolpygo — 485.
The Spiral Growth of Crystals. A. A. Chernov — 116.
Ions and Ionization
Electroluminescence. M. V. Fock — 759.
Principles of Formation and Focusing of Intense Beams of Charged Particles. V. P. Ignatenko — 96.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.
Ions and Electrons, Mobility
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
Liquids
Spectroscopic Studies of Benzene. V. L. Broude — 584.
The Development of S. I. Vavilov's Ideas in the Field of Luminescence. V. L. Levshin — 747.
Low Temperature Physics
Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.
Spectroscopic Studies of Benzene. V. L. Broude — 584.
Luminescence
Electroluminescence. M. V. Fock — 759.
Spectroscopic Studies of Benzene. V. L. Broude — 584.
The Development of S. I. Vavilov's Ideas in the Field of Luminescence. V. L. Levshin — 747.
The Development of S. I. Vavilov's Work in Physics. V. L. Levshin, A. N. Terenin, and I. M. Frank — 730.
The Quenching of the Luminescence of Solutions by Foreign Substances. B. Ya. Sveshnikov — 776.
Magnetic Properties
Paramagnetic Absorption of Sound. S. A. Al'tshuler, B. I. Kochelaev, and A. M. Leushin — 880.
Magnetic Resonance
Optical Orientation of Atoms and its Applications. G. V. Skrotskii and T. G. Izyumova — 177.
Paramagnetic Absorption of Sound. S. A. Al'tshuler, B. I. Kochelaev, and A. M. Leushin — 880.
Mathematical Methods
Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.
Local Invariance and the Theory of Compensating Fields. V. B. Adamskii — 607.
Principles of Formation and Focusing of Intense Beams of Charged Particles. V. P. Ignatenko — 96.
The Application of the Methods of Quantum Field Theory in Statistical Physics. A. I. Alekseev — 23.
The Present State of the Theory of Polarization of Ideal Ionic and Valence Crystals. K. B. Tolpygo — 485.
Meetings and Conferences
Fourth Conference on Semiconductor Theory. É. I. Rashba — 498.
Symposium on Diffraction of Waves. B. D. Tartakovskii — 511.
Symposium on Physical Fundamentals of the Electrophotographic Process. V. M. Fridkin — 637.
Metals
Certain X-ray Diffraction Methods of Investigating Cold Worked Metals. D. M. Vasil'ev and B. I. Smirnov — 226.
Methods and Instruments
Certain Results Obtained in Research on Controlled Thermonuclear Reactions in the USSR. I. V. Kurchatov — 274.
Demonstrations of the Properties of Saturated Vapors. B. Sh. Perkal'skis — 835.
Electron Interference and Phase Microscopy. V. I. Milyutin — 576.
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
Experiments on Refraction and Reflection of Polarized Light. D. I. Sakharov — 521.
Light Transmission Method of Obtaining a Picture of Fresnel Interference in White Light. Ya. E. Amstislavskii — 836.
Methods of Measuring Dielectric Constants of Substances at Microwave Frequencies. V. P. Shestopalov and K. P. Yatsuk — 617.
M. V. Lomonosov and the Development of Physics. B. I. Spasskii — 841.
Optical Orientation of Atoms and its Applications. G. V. Skrotskii and T. G. Izyumova — 177.
Physical Measurements on Photographs of Particle Tracks in Bubble Chambers. I. I. Pershin — 260.
Possible Investigation of Relativistic Effects with the Aid of Molecular and Atomic Frequency Standards. N. G. Basov, O. N. Krokhin, A. N. Oraevskii, G. M. Strakhovskii, and B. M. Chikhachev — 641.
Principles of Formation and Focusing of Intense Beams of Charged Particles. V. P. Ignatenko — 96.
Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.
The Achievement of M. V. Lomonosov in the Field of Automation of Measurement. I. B. Litinetskii — 850.
The Measurement of Multidimensional Spectra in Nuclear Physics. G. P. Mel'nikov — 370.
The Microtron. A. P. Grinberg — 857.
The Michelson Interferometer as an Apparatus for Lecture Demonstrations. T. S. Velichkina, O. A. Shustin, and N. A. Yakovlev — 523.

Work with the Experimental Thermonuclear System Ogra. I. N. Golovin, L. I. Artemenkov, G. F. Bogdanov, D. A. Panov, V. I. Pistunovich, and N. N. Semashko — 323.

Microwaves

Principles of Formation and Focusing of Intense Beams of Charged Particles. V. P. Ignatenko — 96.

Molecular Aggregates

Modern Theories of Dipole Polarization of Condensed Nuclear Systems. G. P. Mikhaĭlov and L. L. Burshteĭn — 389.

Spectroscopic Studies of Benzene. V. L. Broude — 584.

The Development of S. I. Vavilov's Ideas in the Field of Luminescence. V. L. Levshin — 747.

Molecular Structure and Spectra

Absolute Intensities of Electronic Transitions in Diatomic Molecules. V. N. Soshnikov — 425.

Intensities in the Infrared Absorption Spectra in Polyatomic Molecules. L. A. Gribov and V. N. Smirnov — 919.

Spectroscopic Studies of Benzene. V. L. Broude — 584.

The Development of S. I. Vavilov's Ideas in the Field of Luminescence. V. L. Levshin — 747.

The Quenching of the Luminescence of Solutions by Foreign Substances. B. Ya. Sveshnikov — 776.

Nuclear Fission

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

Nuclear Photoeffects

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

Nuclear Reactions, General

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

Nuclear Reactions Induced by Alpha Particles and He^3

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

The Optical Model of the Nucleus in the Light of Present-Day Data. I. S. Shapiro — 674.

Nuclear Reactions Induced by Deuterons and Tritons

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

The Optical Model of the Nucleus in the Light of Present Day Data. I. S. Shapiro — 674.

Nuclear Reactions Induced by Mesons and Hyperons

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

Nuclear Reactions Induced by Neutrons

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

The Optical Model of the Nucleus in the Light of Present-Day Data. I. S. Shapiro — 674.

Nuclear Reactions Induced by Protons

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

The Optical Model of the Nucleus in the Light of Present-Day Data. I. S. Shapiro — 674.

Nuclear Spectra

Nuclear Isomerism. L. I. Rusinov — 282.

On Some Problems of Isomerism of Atomic Nuclei. V. I. Gol'danskiĭ and L. K. Peker — 291.

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

Nuclear Structure Theory

Nuclear Isomerism. L. I. Rusinov — 282.

Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

The Optical Model of the Nucleus in the Light of Present-Day Data. I. S. Shapiro — 674.

Optical Properties

Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.

Electroluminescence. M. V. Fock — 759.

Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskiĭ — 205.

Experiments on Refraction and Reflection of Polarized Light. D. I. Sakharov — 521.

Intensities in the Infrared Absorption Spectra of Polyatomic Molecules. L. A. Gribov and V. N. Smirnov — 919.

Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.

Spectroscopic Studies of Benzene. V. L. Broude — 584.

The Development of S. I. Vavilov's Ideas in the Field of Luminescence. V. L. Levshin — 747.

The Michelson Interferometer as an Apparatus for Lecture Demonstrations. T. S. Velichkina, O. A. Shustin, and N. A. Yakovlev — 523.

The Present State of the Theory of Polarization of Ideal Ionic and Valence Crystals. K. B. Tolpygo — 485.

The Quenching of the Luminescence of Solutions by Foreign Substances. B. Ya. Sveshnikov — 776.

Penetration of Particles through Matter

Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.

Electroluminescence. M. V. Fock — 759.

Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.

Phase Transitions in Solids

A Theoretical Analysis of the Decomposition Kinetics of Supersaturated Solid Solutions. L. N. Aleksandrov and B. Ya. Lyubov — 706.

Physics of Polymers

Modern Theories of Dipole Polarization of Condensed Molecular Systems. G. P. Mikhaĭlov and L. L. Burshteĭn — 389.

Plasma Physics

Certain Results Obtained in Research on Controlled Thermonuclear Reactions in the USSR. I. V. Kurchatov — 274.

Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.

Stability of Plasma. A. A. Vedenov, E. P. Velikhov, and R. Z. Sagdeev — 332.

Work with the Experimental Thermonuclear System Ogra. I. N. Golovin, L. I. Artemenkov, G. F. Bogdanov, D. A. Panov, V. I. Pistunovich, and N. N. Semashko — 323.

Radiation

Fluctuations of Electromagnetic Waves in the Troposphere in the Presence of Separation Boundaries. F. G. Bass, S. Ya. Braude, É. A. Kaner, and A. V. Men' — 51.

The Development of S. I. Vavilov's Ideas in the Field of Luminescence. V. L. Levshin — 747.
Theory of Cerenkov Radiation (III). B. M. Bolotovskii — 781.

Radioactivity
Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

Range and Energy Loss of Particles
Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.
Spontaneous Fission of Nuclei. K. A. Petrzhak and G. N. Flerov — 305.

Relativity, Gravitation, Unified Field Theory
Local Invariance and the Theory of Compensating Fields. V. B. Adamskii — 607.
Possible Investigation of Relativistic Effects with the Aid of Molecular and Atomic Frequency Standards. N. G. Basov, O. N. Krokhin, A. N. Oraevskii, G. M. Strakhovskii, and B. M. Chikhachev — 641.

Scattering
Symposium on Diffraction of Waves. B. D. Tartakovskii — 511.
The Optical Model of the Nucleus in the Light of Present-Day Data. I. S. Shapiro — 674.

Semiconductors
Electroluminescence. M. V. Fock — 759.
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
Fourth Conference on Semiconductor Theory. É. I. Rashba — 498.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.

Solid State Theory
A Theoretical Analysis of the Decomposition Kinetics of Supersaturated Solid Solutions. L. N. Aleksandrov and B. Ya. Lyubov — 706.
Electrodynamics of Media with Spatial Dispersion. A. A. Rukhadze and V. P. Silin — 459.
Elementary Photographic Processes in an Electric Field. A. L. Kartuzhanskii — 205.
Paramagnetic Absorption of Sound. S. A. Al'tshuler, B. I. Kochelaev, and A. M. Leushin — 880.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.
Spectroscopic Studies of Benzene. V. L. Broude — 584.
The Physical Properties of Metals of High Purity. R. I. Garber and I. A. Gindin — 405.
The Present State of the Theory of Polarization of Ideal Ionic and Valence Crystals. K. B. Tolpygo — 485.

Spectra, General
Electroluminescence. M. V. Fock — 759.
Intensities in the Infrared Absorption of Spectra of Polyatomic Molecules. L. A. Gribov and V. N. Smirnov — 919.
Spectroscopic Studies of Benzene. V. L. Broude — 584.
The Development of S. I. Vavilov's Ideas in the Field of Luminescence. L. V. Levshin — 747.

Statistical Mechanics and Thermodynamics
General Theory of Van der Waals' Forces. I. E. Dzyaloshinskii, E. M. Lifshitz, and L. P. Pitaevskii — 153.
The Application of the Methods of Quantum Field Theory in Statistical Physics. A. I. Alekseev — 23.
Thermodynamics of a Plane Ising-Onsager Dipole Lattice. A. M. Dykhne and Yu. B. Rumer — 698.

Structure of Alloys and Other Systems
The Physical Properties of Metals of High Purity. R. I. Garber and I. A. Gindin — 405.
Paramagnetic Absorption of Sound. S. A. Al'tshuler, B. I. Kochelaev, and A. M. Leushin — 880.

Ultrasonics
Paramagnetic Absorption of Sound. S. A. Al'tshuler, B. I. Kochelaev, and A. M. Leushin — 880.

X-rays
Certain X-ray Diffraction Methods of Investigating Cold Worked Metals. D. M. Vasil'ev and B. I. Smirnov — 226.
Radiation Ionization Processes in Germanium and Silicon Crystals. V. S. Vavilov — 761.
Spectroscopic Studies of Benzene. V. L. Broude — 584.

ERRATUM

The pages numbered 415, 416, and 417 in the November-December 1961 issue (The Physical Properties of Metals of High Purity, by R. I. Garber and I. A. Gindin) are out of order. The correct sequence is 416, 417, and 415.